

### REMARKS

Claims 1-61 have been canceled without prejudice or disclaimer. Claims 62-78 have been added and therefore are pending in the present application. Claims 62-78 correspond to the subject matter found in canceled claims 42 and 44-61, and are supported by the specification and claims as originally filed.

The specification has been amended to correct the disclosure at page 5, as suggested by the Examiner.

It is respectfully submitted that the present amendment presents no new issues or new matter and places this case in condition for allowance. Reconsideration of the application in view of the above amendments and the following remarks is requested.

#### I. Specification

The Specification is objected to for the alleged inconsistent manner in which amino acid substitutions are referenced on page 5. The Examiner notes that the nomenclature to be used when defining mutations, namely, original amino acid(s):position(s):substituted amino acid(s), is not followed on page 5. Appropriate correction has been made.

#### II. Claim Objections

Claim 61 is objected to as missing a period. Applicants respectfully submit that this rejection is rendered moot by the new claims.

#### III. The Rejection of Claims 42 and 44-61 under 35 U.S.C. 112

Claims 42 and 44-61 are rejected under 35 U.S.C. 112, as allegedly lacking enablement. The Examiner contends that although the claims are enabled for DNA sequence encoding an alpha-amylase comprising the amino acid sequence of SEQ ID NO:4 with an alteration at position 356, that the disclosure does not reasonably provide enablement for a nucleic acid encoding an alpha-amylase having an amino acid sequence which is at least 60% identical to SEQ ID NO:4.

The claims are directed to variant alpha-amylases. The new claims correspond to canceled claims 42 and 44-61, but further recite that the parent of the variant alpha-amylase is a "Termamyl-like alpha-amylase." The new claims also recite that the variant has an amino acid sequence which is at least 70% identical to SEQ ID NO:4.

Applying the Wands factors, it is clear that the claimed invention is enabled commensurate in scope with the claims.

Foremost, it is noted that the test for determining enablement is not whether *any* experimentation is required, but rather whether *undue* experimentation is required. Indeed, and as noted by the *In re Wands* court (*In re Wands*, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988)), the test for determining whether undue experimentation is required even permits a considerable amount of testing. Furthermore, even if the experimentation involved might be time consuming, it is the *nature* and not the *amount* of experimentation that is determinative of non-enablement. See *Hybritech v. Monoclonal Antibodies, Inc.*, 231 USPQ 81 (Fed. Cir. 1986).

The experimentation that would be required by the artisan practicing the present invention is clearly not undue, but rather involves only routine testing/screening, so as to produce nucleic acid encoding the recited variants of Termamyl-like alpha-amylase which are highly related to SEQ ID NO:4. Enablement is clearly not precluded by the necessity for some experimentation such as routine screening. See *Wands*, 8, USPQ2d at 1404.

Applicants have also provided clear and sufficient guidance in the specification to enable an artisan to practice the claimed invention. In particular, given the high degree of relatedness required, namely nucleic acids encoding variants of Termamyl-like alpha-amylases and that the variant has at least 70% identity to SEQ ID NO:4, an artisan, once apprised of Applicants' invention would be able to practice the invention commensurate in scope of the claims. Such tasks could be performed by using any of the numerous parent Termamyl-like alpha-amylases disclosed in the specification (see, the specification at page 6, line 20 to page 12, line 30) and applying the molecular biological techniques described in the specification on pages 17-27.

Applicants have also provided detailed working examples, including of the alterations claimed, which further illustrates the enablement of and provides guidance for carrying out the claimed invention. See Examples 1 and 2.

The prior art also provides additional guidance that would allow one skilled in the art, once apprised of Applicants' invention, to prepare the claimed variants. Accordingly, Applicants have also referred the artisan to numerous publications which aid the artisan, including the many publications on Termamyl-like alpha-amylases, see, e.g., the specification at page 6, lines 21-35, page 7, lines 1-8, page 7, lines 12 to page 8, lines 9. Applicants have also referred the artisan to numerous publications to aid the artisan in performing the molecular biological techniques necessary to practice the claimed invention. See the list of articles provided in the specification on 40.

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